

ABSTRACT OF THE DISCLOSURE

In a differential amplifier and an operational amplifier each for amplifying a signal, a differential signal composed of first and second signals is inputted to a couple of input terminals (1, 2). When the voltage of the first signal is, e.g., less than the voltage value of a reference voltage source (15), a comparator (13) senses it and a switch circuit (12) switches to a first current source (6) and a current from a third current source (11) flows into the first current source (6) so that a current is inhibited from flowing in the first differential couple (4). As a result, the inputted differential signal is amplified and outputted only through a second differential couple (5). In a situation in which the voltage of the first signal exceeds the voltage of the reference voltage source (15), on the other hand, the switch circuit (12) switches to a current source (7) so that the inputted differential signal is amplified and outputted only through the first differential couple (4). As a result, a gain is equal over the entire range of input operating voltage and a high-speed operation is performed.